

REMARKS

The Examiner is thanked for the due consideration given the application. The specification has been amended to insert headings, to improve the format and to correct minor errors.

Claims 12, 15 and 17-33 are pending in the application. Claims 13, 14 and 16 have been canceled by this amendment. Independent claims 12 and 21 have been amended to better set forth the invention being claimed. Claims 22-27 are new and generally reflect the subject matter of the apparatus claims without utilizing "means" language. Claims 28-33 are new and find support in the paragraph bridging pages 8 and 9 of the specification.

No new matter is believed to be added to the application by this amendment.

Rejections Based on HIROTA et al.

Claims 12-21 have been rejected under 35 USC §103(a) as being unpatentable over HIROTA et al. (U.S. Patent 6,627,053) in view of JP '264 (JP 40-7068264A Abstract). Claims 12-17 and 19-21 have been rejected under 35 USC §103(a) as being unpatentable over HIROTA et al. in view of MIDDLEBY (U.S. Patent 5,228,964). These rejections are respectfully traversed.

The present invention pertains to an electrolytic device for disinfecting water in a water supply system by generation of active chlorine, which is exemplarily illustrated in Figure 1 of the application, reproduced below.

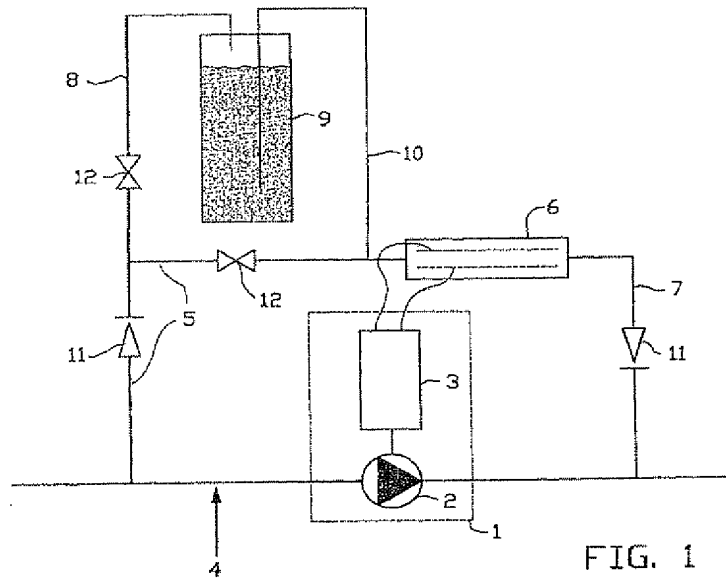


FIG. 1

Figure 1 shows a generator 1, and electrolytic cell 6 and a salt dosing device 9, non-return valves 11 and constrictions 12.

Claim 12 of the present invention, as amended sets forth that constrictions or valves are accommodated in the water supply system between the locations where the supply and discharge pipes for the electrolytic cell are connected, or in one or more of the supply and discharge pipes for the electrolytic cell and the salt dosing device, as well as that the blade wheel of the generator is accommodated in the water supply system between the locations where the supply and discharge pipes for the electrolytic cell are connected, as means to regulate the ratios of the water flow in the water supply system, the feeding for the electrolytic cell and the feeding for the salt dosing device.

Method claim 21 has been amended in a similar way.

As mentioned on page 5, lines 17-27 of the specification, the specific position of the generator in the water supply system according to amended claim 12 results in a slight pressure drop over the generator, sufficient to generate the water flow to the electrolytic cell. Page 7, lines 25-28 of the specification describes that the generator comprises a blade wheel 2 placed in the main pipe 4.

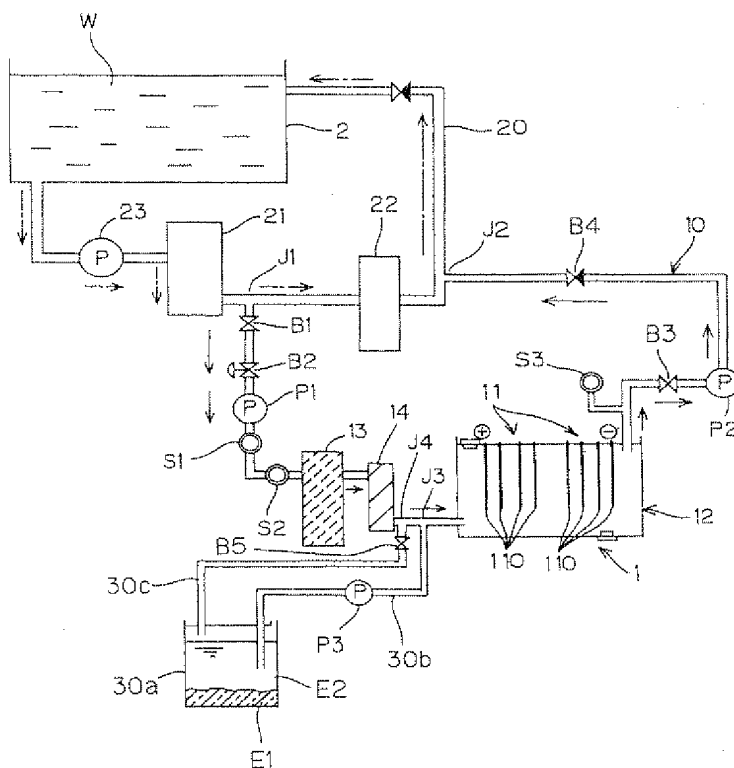
The ratios of the various flows in the electrolytic device of the present invention are further regulated by the constrictions and/or valves in the pipes.

The device of the present invention effectively produces active chlorine to disinfect water in a water supply system, in particular to control harmful organisms as *Legionella*.

The construction of the electrolytic device is very simple and economic. It provides in its own need for power and is self adjusting.

HIROTA et al. pertains to an electrolytic device for disinfecting water. The Official Action refers to Figure 1 of HIROTA, which is reproduced below.

FIG. 1



The apparatus of HIROTA et al. includes an electrolytic tank to put water into, an electrode provided in the electrolytic tank, a water treating part for pouring water in a pool and returning to the pool the water in the electrolytic cell, a residual chlorine sensor for measuring the residual chlorine concentration of water, and control means for controlling the energization of the electrode on the basis of the measured value by the residual chlorine sensor.

In all the disclosed embodiments of HIROTA et al. plural pumps are present. The device is for sterilizing water stored in pools of various sizes. A control section regulates the treatment

by controlling electrodes, pumps and valves on the basis of signals from, i.e., chlorine, pH conductivity, temperature, hydrogen concentration sensors, flowmeters and pressure gauges (see Figures 13, 21, 27, 31)

At page 3 the Official Action acknowledges that HIROTA et al. fails to disclose a generator with a blade to produce the voltage as claimed or the placement of the blade within the water supply system. The Official Action refers to the English language Abstract of JP '264 to address this deficiency.

The Abstract of JP '264 discloses the use of a DC dynamo with blade placed within the flow of the water from a source, such as a tap, to produce the voltage for an electrolytic cell. The Official Action alleges that to the skilled person it would have been obvious to modify the disclosure of HIROTA et al. with the teachings of '264 to arrive at the present invention.

However, HIROTA et al. requires a power supply for energizing pump, valves, control section, electrodes, etc. A generator driven by the flow in the water treatment device will of course not generate sufficient energy for the pumps generating this flow. Therefore the skilled person would not contemplate combining the generator of JP '264 with the water treatment device of HIROTA et al.

Moreover the prior art fails to teach or suggest to accommodate the blade wheel of the generator between the location where supply and discharge pipes for the electrolytic cell are

connected with the water supply system to produce a pressure drop that is used to generate a flow to the electrolytic cell.

At page 5 the Official Action acknowledges that HIROTA et al. fail to disclose a generator with a blade to produce the voltage as claimed or the placement of the blade within the water supply system. The Official Action refers to MIDDLEBY to address this deficiency.

MIDDLEBY discloses a chlorinating apparatus to be mounted in a salt water swimming pool having a pump for circulating the water between the swimming pool and the filter. In one embodiment, an electricity generating means is placed in a chamber containing the leaf basket of a conventional swimming pool, the bottom of the chamber being connected with the pump/filter. In another embodiment, the housing of a chlorinating apparatus is connected with the outlet of the pipe returning the water from the pump/filter. The Official Action alleges that to the skilled person it would have been obvious to modify the disclosure of HIROTA et al. with the teachings of MIDDLEBY to arrive at the present invention.

However, a skilled person would not contemplate to incorporate the generator of MIDDLEBY in the water treatment device of HIROTA et al., because, as discussed above, additional power will be required to energize pump, valves etc.

Further, the cited prior art does not suggest to accommodate the blade wheel of the generator in the water supply system

between the locations where the supply and discharges pipes for the electrolytic cell are connected with the water supply system to produce the pressure drop used in the present invention to direct a water flow to the electrolytic cell.

One of ordinary skill in the art would thus fail to produce a claimed embodiment of the present invention from a knowledge of HIROTA et al. in light of either the Abstract of JP '264 or MIDDLEBY. A *prima facie* case of unpatentability has thus not been made.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

Conclusion

The Examiner is thanked for considering the Information Disclosure Statement filed July 2, 2004 and for making an initialed PTO-1449 Form of record in the application.

Prior art of record but not utilized is believed to be non-pertinent to the claims.

The rejections are believed to be overcome, obviated or rendered moot and no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment

to Deposit Account No. 25-0120 for any additional fees required
under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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